

WHAT IS CLAIMED IS:

1           1.     A method of controlling semi-frozen liquid beverage in a dispensing machine having  
2     a bowl to contain said beverage therein, a motor to turn a helical auger blade within said bowl to  
3     scrape the semi-frozen beverage, and a compressor to cool said beverage, which method comprises:  
4                 actuating said compressor to said bowl until temperature of said beverage is cooled  
5     to reach an initial set point;  
6                 deactivating said compressor to said bowl after temperature of said beverage is cooled  
7     at or below said set point;  
8                 sensing torque on said motor caused by resistance to said auger blade after a defined  
9     time period following said switching off of said compressor;  
10                activating said compressor to said bowl if torque on said motor is below a certain  
11     level; and  
12                lowering said temperature set point from said initial set point to a lower set point to  
13     cool said product.

1           2.     A method of controlling semi-frozen liquid beverage as set forth in Claim 1 wherein  
2     said initial step of activating said compressor to said bowl includes switching a solenoid switch.

1           3.     A method of controlling semi-frozen liquid beverage as set forth in Claim 1 including  
2     the steps of monitoring a pump which delivers said beverage to said bowl to determine amount of  
3     beverage delivered to said bowl and raising said set point when a selected amount has been  
4     delivered.

1           4.     A method of controlling semi-frozen liquid beverage as set forth in Claim 1 including  
2     the steps of monitoring a pump timer to determine the amount of beverage delivered to said bowl  
3     and raising said set point when a selected amount has been delivered.

1           5.     A semi-frozen liquid beverage dispensing machine having a bowl to contain semi-  
2     frozen beverage therein, which apparatus comprises:

3                     at least one refrigerated storage cavity for receiving a bulk storage container of liquid  
4     beverage;

5                     a fluid passageway tube extending between said bowl and said bulk storage container;

6                     a pump to transport said liquid from said bulk storage container through said tube and  
7     said bowl; and

8                     a sensor to sense liquid level of said semi-frozen beverage in said bowl of said  
9     machine, said sensor connected to said pump.

1           6.     A self-contained liquid storage and delivery apparatus as set forth in Claim 5 wherein  
2     said bulk storage container is a flexible membrane bag within a rigid box and includes a connection  
3     nipple.

1           7.     A semi-frozen liquid beverage dispensing machine as set forth in Claim 5 wherein  
2     said fluid passageway tube is within a refrigerated zone.

1           8.     A semi-frozen liquid beverage dispensing machine as set forth in Claim 5 wherein  
2     said bulk storage container includes a radio frequency ID tag which communicates with a  
3     transmitter/receiver in said machine.

1           9.     A method to store, deliver and automatically fill liquid beverage for supplying a  
2     separate, discrete semi-frozen liquid beverage machine having a bowl to contain beverage products,  
3     which method comprises:

4                 storing at least one bulk storage container of said beverage products in a refrigerated  
5     storage cavity separate and discrete from said liquid beverage machine;

6                 transporting said beverage products from said storage container in said refrigerated  
7     storage cavity through a thermally conductive passageway into a bowl of said beverage machine by  
8     pumping with a pump; and

9                 sensing liquid level with a liquid level sensor in said bowl in order to activate or  
10    deactivate said pumping.

1           10.    A method as set forth in Claim 9 including the additional step of removing said bulk  
2     storage container of said liquid beverage from said cavity and replacing with another storage  
3     container.

1           11.    A method to store, deliver and automatically fill liquid beverage for a semi-frozen  
2     liquid beverage machine having a bowl to contain beverage products, which method comprises:

3 storing at least one bulk storage container of said beverage products in a refrigerated  
4 storage cavity within said liquid beverage machine;  
5 transporting said beverage products from said storage container in said refrigerated  
6 storage cavity through a thermally conductive passageway into said bowl of said beverage machine;  
7 and  
8 delivering water from a water supply to deliver water to a bowl.

1 12. A method to store, deliver and automatically fill liquid beverage for a semi-frozen  
2 liquid beverage machine having a bowl to contain beverage products, which method comprises:

3 storing at least one bulk storage container of said beverage products in a refrigerated  
4 storage within said liquid beverage machine;

5 transporting said beverage products from said storage container in said refrigerated  
6 storage cavity through a thermally conductive passageway into said bowl of said beverage machine;  
7 and

8 wherein the step of transporting said liquid beverage includes delivering said liquid  
9 beverage to said bowl below the liquid level in said bowl.

1 13. A bowl for a beverage dispenser, which bowl comprises:

2 an elongated cylindrical body;

3 an open back capable of mating with said dispenser; and

4 a closed, partially domed front.

1           14.    A bowl for a beverage dispenser as set forth in Claim 13 wherein a  
2   cylindrical body is at an angle to horizontal plane of said dispenser.

1           15.    A bowl for a beverage dispenser as set forth in Claim 13 wherein said  
2   body has a port to receive a pin extending from said dispenser in order to lock said bo

1           16.    A bowl for a beverage dispenser as set forth in Claim 13 wherein said bo  
2   a cylindrical evaporator through said open back.